

**WYOMING PAID FIREMEN'S RETIREMENT FUND PLAN A**  
**ACTUARIAL VALUATION REPORT**  
**FOR THE YEAR BEGINNING JANUARY 1, 2014**

April 22, 2014

Board of Trustees  
**Wyoming Paid Firemen's Retirement Fund Plan A**  
6101 Yellowstone Road  
Suite 500  
Cheyenne, WY 82002

Dear Board of Trustees:

**Subject: Actuarial Valuation as of January 1, 2014**

We are pleased to present the report of the actuarial valuation of the Wyoming Paid Firemen's Retirement Fund Plan A ("the Fund") for the plan year commencing January 1, 2014. This report describes the current actuarial condition of the Fund, determines the calculated employer contribution amount (the actuarially required amount), and analyzes changes in this contribution amount from the prior year. Valuations are prepared annually, as of January 1, the first day of the Fund's plan year.

### **Financing objectives and funding policy**

Assuming the suspension of contributions to the Fund, investments are the only funding source for this plan. The purpose of this actuarial valuation is to determine what contribution requirement, in addition to investments, would be needed to meet obligations of the Fund.

If no further contributions are made, the valuation results indicate that the assets in the Fund could be depleted prior to fully settling the obligations of the Fund.

### **Progress toward realization of financing objectives**

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. The funded ratio, based upon the assumption of 3.0% cost-of-living adjustment increases as of January 1, 2014, is 68.32%. This funded ratio was 71.30% as of January 1, 2013. On a market value of assets basis, the Fund's funded ratio decreased from 73.64% as of January 1, 2013 to 71.55% as of January 1, 2014.

### **Benefit provisions**

The benefit provisions reflected in this valuation are those which were in effect on January 1, 2014. There were no changes in the benefit provisions since the prior valuation.

The benefit provisions are summarized in Appendix B of the report.

## **Assumptions and methods**

Actuarial assumptions and methods are set by the Board, based upon recommendations made by the plan's actuary. The current assumptions used in the valuation were adopted by the Board effective February 22, 2013. This is the first valuation using the new assumptions.

The results of the actuarial valuation are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution amounts and funding periods. The actuarial calculations presented in the report are intended to provide information for rational decision making.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in Governmental Accounting Standards Board (GASB) Statement Number 25.

All assumptions and methods are described in Appendix A of the report.

## **Data**

Member data for retired, active and inactive members was supplied as of January 1, 2014 by the Fund's staff. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data.

Asset and financial information as of January 1, 2014 was prepared by Wyoming Retirement System and is the responsibility of management. McGee, Hearne & Paiz, LLP provided us the asset and financial information and will opine on Wyoming Retirement System's statements.

## **Plan experience**

As part of each valuation, we examine the Fund's experience relative to the assumptions. As experience in a given year deviates from the assumptions, a gain occurs if the liabilities grow slower than the assumption set anticipates and a loss occurs if the liabilities grow faster. This past fiscal year the Fund experienced a total loss on the unfunded actuarial accrued liability of approximately \$(785,298), primarily due to contributions less than expected. The aggregate result of this is disclosed in Table 3 under Section III of the report.

## **Actuarial certification**

All of the tables contained in this actuarial valuation report were prepared by Gabriel, Roeder, Smith & Company. Historical information for years prior to 2010 was prepared by the prior actuarial firm and was not subjected to our actuarial review. We certify that the information presented herein is accurate and fairly portrays the actuarial position of the Fund as of January 1, 2014.

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries and consultants. Mark Randall and Leslie Thompson are Enrolled Actuaries and Members of the American Academy of Actuaries, and all meet the Qualification Standards of the American Academy of Actuaries. Finally, all of the undersigned are experienced in performing valuations for large public retirement systems.

Respectfully submitted,  
**Gabriel, Roeder, Smith & Company**

A handwritten signature in black ink that reads "Mark R. Randall". The script is cursive and fluid.

Mark R. Randall, FCA, EA, MAAA  
Executive Vice President

A handwritten signature in black ink that reads "Leslie Thompson". The script is cursive and fluid.

Leslie Thompson, FSA, FCA, EA, MAAA  
Senior Consultant

A handwritten signature in black ink that reads "Todd D. Kanaster". The script is cursive and fluid.

Todd D. Kanaster, ASA, FCA, MAAA  
Actuary

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## **SECTION I**

### **EXECUTIVE SUMMARY**

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## Executive Summary

Item	January 1, 2014			January 1, 2013
	3.0% COLA	3.0% COLA	0.0% COLA	3.0% COLA
	<i>New Assumptions</i>	<i>Old Assumptions</i>		
1. Contributions:				
a. Total normal cost	\$58,071	\$65,578	\$38,525	\$145,143
b. Employee contributions	-	-	-	-
c. Other expected contributions	-	-	-	-
d. Net employer normal cost	\$58,071	\$65,578	\$38,525	\$145,143
e. Amortization payment	9,272,922	7,515,462	1,746,487	8,033,152
f. Administrative expenses	127,100	127,100	127,100	106,100
g. Required contributions	\$9,458,093	\$7,708,140	\$1,912,112	\$8,284,395
h. Statutory contributions	-	-	-	-
i. Shortfall/(surplus)	\$9,458,093	\$7,708,140	\$1,912,112	\$8,284,395
2. Funding Elements:				
a. Market value of assets (MVA)	\$147,572,826	\$147,572,826	\$147,572,826	\$143,734,960
b. Actuarial value of assets (AVA)	\$140,917,231	\$140,917,231	\$140,917,231	\$139,181,449
c. Actuarial accrued liability (AAL)	\$206,255,267	\$193,872,007	\$153,223,168	\$195,199,195
d. Unfunded/(overfunded) actuarial accrued liability (UAAL)	\$65,338,036	\$52,954,776	\$12,305,937	\$56,017,746
3. GASB 25/27 Elements:				
a. Annual required contribution	\$9,458,093	\$7,708,140	\$1,912,112	\$8,284,395
b. Actual contributions				
i. Employer	-	-	-	-
ii. Other	-	-	-	-
c. Percentage contributed	-	-	-	-
d. Funded ratio on an actuarial basis (AVA/AAL)	68.32%	72.69%	91.97%	71.30%
e. Funded ratio on an market basis (MVA/AAL)	71.55%	76.12%	96.31%	73.64%
f. Projected payroll	\$198,404	\$198,404	\$198,404	\$486,270



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## **SECTION II**

### DISCUSSION

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### Contribution Requirements

- Exhibits throughout this report are based primarily, unless stated otherwise, on the assumption of 3.00% cost-of-living adjustment increases (COLAs).
- The current funding policy of no member or employer contributions is not expected to sustain the plan over the long term with the current level of benefits. Over time, either additional funding will be needed or the current benefit expectations will have to be reduced.
  - Assets are projected to be depleted in the year 2029. With no COLA incorporated after January 1, 2014, assets are projected to be depleted in the year 2040.
- There were no changes to the benefit provisions reflected in this actuarial valuation.
- Actuarial assumptions and methods were updated since the prior valuation to those adopted February 22, 2013 by the Board. In particular, the assumed rate of return was lowered from 8.00% to 7.75%. All of the changes to the demographic and economic assumptions are detailed in Appendix A.
- The amortization payment is based upon the following assumptions:
  - 10-year open funding period
  - Amortization payment amounts are calculated to remain level
- The analysis of the changes in the contribution rates is shown in Table 5 under Section III of the report
- The unfunded accrued liability increased from \$56 million to \$65 million.

## Calculation of Contribution Amounts

The valuation determines the contribution requirement for the year. There is no scheduled funding for Plan A. The employer calculated contribution has three components:

- The normal cost (NC)
- The amortization of the (UAAL)
- The administrative expenses

The NC is the theoretical amount which would be required to pay the members' benefits if this amount had been contributed from each member's entry date and if the fund's experience exactly followed the actuarial assumptions.

The actuarial accrued liability (AAL) is the difference between (i) the actuarial present value of all future benefits for all current participants of the fund, including active, inactive and retired members, and (ii) the actuarial present value of future normal costs. Thus the AAL represents the liability associated with past years. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and the actuarial value of assets (AVA). It is the shortfall/excess between the liability associated with prior years (the AAL) and the assets actually accumulated (the AVA). This shortfall/excess can arise from several sources, including actuarial gains and losses which are caused by differences between actual experience and the plan's assumptions, changes to the plan's actuarial assumptions, and amendments to the benefit provisions.

The amortization of the UAAL is the amount required to fund this difference. It is the amount, expressed as a level dollar amount, necessary to amortize the UAAL. This amortization is over a period of 10 years beginning January 1, 2014. The Executive Summary shows the amortization of the UAAL, called Amortization Payment, compared to that of last year.

Assumed administrative expenses are the average of the prior two years, with each year projected at 6.5% to the valuation date.

The calculated contributions are necessary to meet the GASB Annual required Contribution (ARC) for the twelve-month period beginning January 1, 2014.

### **Financial Data and Experience**

As of January 1, 2014, the Fund has a total market value of \$148 million. Financial information was received from McGee, Hearne & Paiz, LLP.

Table 5 under Section III of the report shows a reconciliation of the market values between the beginning and end of 2013.

During 2013, the total investment return on the market value of assets (MVA), as reported by NEPC, LLC, was 13.53%, as shown in Tables 7 and 8 under Section III of the report.

In determining the contribution rates and funded status of the Fund, an actuarial value of assets (AVA) is used rather than the market value of assets. The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. An adjustment is made if the actuarial value is not within 20% of the Market Value. For any year following a year in which the 20% of market value adjustment was applied, the actuarial value is determined as if the adjustment was not applied in the previous year.

The development of the AVA is shown in Table 7 under Section III of the report. The AVA as of January 1, 2014 is \$141 million. The AVA is 95.49% of the MVA as of January 1, 2014, compared to 96.83% last year. The difference between the AVA and the MVA is the deferred gains and losses. As of January 1, 2013, the total deferred gain was \$ 4.6 million. As of January 1, 2014, the total deferred gain was \$ 6.7 million.

In addition to the market return, Table 7 also shows the return on the actuarial value of assets for the Fund. For 2013, this return was 12.29%. Because this is greater than the prior assumed 8.00% investment return, an actuarial gain occurred, decreasing the unfunded actuarial accrued liabilities of the Fund by \$5.6 million.

### **Member Data**

Member data as of January 1, 2014 was supplied electronically by the Fund's staff. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall.

Table 13 under Section III of the report shows the number of members by category (active, inactive, retired, etc.) along with member statistics. Tables 14 through 22 show summaries of certain historical data and include membership statistics.

The total payroll shown on the statistical tables is the amount that was supplied by the Fund, annualized, if necessary.

Total active member payroll decreased 59.20% from last year, compared with a 1.04% decrease the prior year.

Of the 3 active participants, all of them are eligible or will become eligible for normal retirement in 2014.

### Benefit Provisions

Appendix B of the report includes a more detailed summary of the benefit provisions for the Fund. Effective July 1, 1981, this plan was closed to new entrants. A brief summary is as follows:

- *Normal Retirement Eligibility*
  - At least 20 years of service.
- *Normal Retirement Benefit*
  - 75.0% of the maximum salary for a fireman first class for the first 20 years of service plus 1.5% of the maximum salary for a fireman first class for each year in excess of 20 years
- *Normal Form of Payment* is a 100% Joint & Survivor Annuity
- *Employee Contributions* are required
  - None
- *Post-retirement cost-of-living adjustments (COLAs)* may be granted each year at a rate of 3.00%.

There have been no changes to plan provisions since the prior valuation.

### Actuarial Methods and Assumptions

Appendix A of the report includes a summary of the actuarial assumptions and methods used in this valuation. A few highlights are listed as follows:

- Costs are determined using the Entry Age Normal actuarial cost method, calculated as a level dollar amount.
- The unfunded actuarial accrued liability is amortized over 10 years, on an open basis as a level dollar amount.
- The assumed annual investment return rate is 7.75%, with assumed inflation of 3.25%.
- Payroll is assumed to increase at 0.00% per year.
- Inactive vested participants are assumed to retire 20 years after the participant's date of hire.
- No benefit data is available for members entitled to deferred benefits. The present value of benefits expected to be paid to vested inactive non-retired members is approximated using the data provided.

Based on the current mortality tables projected to 2018 to approximate annual changes due to the generational assumption (instead of full generational projections), the average future lifetime for current pensioners is 17.7 years.

Actuarial assumptions and methods were updated since the prior valuation to those adopted February 22, 2013 by the Board.

## **GASB and Funding Progress**

Governmental Accounting Standards Board Statement Number 25 (GASB 25) contains certain accounting requirements for the Fund. In particular, it requires the inclusion of two special schedules in the Fund's annual report:

1. Schedule of Funding Progress
2. Schedule of Employer Contributions

Information needed to prepare the Schedule of Funding Progress is included in Table 10 under Section III of the report.

Governmental Accounting Standards Board Statement Number 27 (GASB 27) also requires that plans calculate an Annual Required Contribution (ARC), and, if actual contributions received are less than the ARC, this must be disclosed.

Under GASB 27, the ARC must be calculated in accordance with certain parameters. In particular, it must include a payment to amortize the unfunded actuarial accrued liability (UAAL). This amortization payment must be computed using a funding period no greater than 30 years. Further, the amortization payment included in the ARC, for a closed plan, must be computed as a level dollar amount, or it may be computed as an amount which increases with payroll (level percentage of payroll). However, if payments are computed on a level percentage of payroll approach, the payroll growth assumption may not anticipate future membership growth.

Since the recommended employer contribution amount is computed as a level dollar amount using an amortization period of 10 years from the valuation date, the calculated amount meets the definition of an acceptable ARC.



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## **SECTION III**

### **SUPPORTING EXHIBITS**

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**Calculation of Annual Required Contribution**  
(Assumes 3.00% Annual Cost-Of-Living Increases)

Item	January 1, 2014	January 1, 2013
1. Projected valuation payroll	\$198,404	\$486,270
2. Present value of future pay	\$436,238	\$977,168
3. Employer normal cost	\$58,071	\$145,143
4. Actuarial accrued liability for active members		
a. Present value of future benefits for active members	\$3,197,224	\$6,821,518
b. Less: present value of future employer normal costs	(140,686)	(355,010)
c. Less: present value of future employee contributions	-	-
d. Actuarial accrued liability	\$3,056,538	\$6,466,508
5. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$192,761,067	\$177,200,725
b. Disabled members	\$10,436,118	11,530,418
c. Inactive members	\$1,544	1,544
d. Active members (Item 4d)	\$3,056,538	6,466,508
e. Total	\$206,255,267	\$195,199,195
6. Actuarial value of assets (Table 7)	\$140,917,231	\$139,181,449
7. Unfunded actuarial accrued liability (UAAL) (Item 5e - Item 6)	\$65,338,036	\$56,017,746
8. Funding period	10 years	10 years
9. Assumed payroll growth rate	0.00%	0.00%
10. Employer contribution requirement		
a. UAAL amortization payment	\$9,272,922	\$8,033,152
b. Employer normal cost	58,071	145,143
c. Administrative expense	127,100	106,100
d. Contribution requirement (a + b + c)	\$9,458,093	\$8,284,395

**Cost Breakdown**  
*(Assumes 3.00% Annual Cost-Of-Living Increases)*

Item	Present Value of Future Normal Costs (1)	Actuarial Accrued Liabilities (2)	Total Present Value of Benefits (3) = (1) + (2)
Age and service allowances based on total service and disability benefits likely to be rendered by present active members	\$120,861	\$3,054,400	\$3,175,261
Death-in-service benefits likely to be paid on behalf of present active members (employer financed portion)	3,061	18,902	21,963
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active members	16,764	(16,764)	0
Benefits likely to be paid to vested inactive members	0	0	0
Benefits to be paid to members due refunds	0	1,544	1,544
Benefits to be paid to current retirees, disabled members, beneficiaries, and future beneficiaries of current retirees	0	203,197,185	203,197,185
Total	\$140,686	\$206,255,267	\$206,395,953
Actuarial value of assets	0	140,917,231	140,917,231
Liabilities to be covered by future contributions	\$140,686	\$65,338,036	\$65,478,722

**Calculation of Total Actuarial Gain/(Loss)**  
(Assumes 3.00% Annual Cost-Of-Living Increases)

Item	January 1, 2014
1. Derivation of Experience Gain/(Loss)	
a. Unfunded actuarial accrued liability (UAAL) - previous valuation	\$56,017,746
b. Normal cost (NC) for fiscal year ending 12/31/2013	145,143
c. Actual administrative expenses for fiscal year ending 12/31/2013	129,937
d. Actuarially determined contribution for fiscal year ending 12/31/2013	8,284,395
e. Interest accrual*:	
(i) For whole year on (a)	4,481,420
(ii) For half year on (b) + (c) - (d)	(320,373)
(iii) Total interest: (e)(i) + (e)(ii)	4,161,047
f. Change in UAAL due to plan changes	-
g. Change in UAAL due to assumption change	12,383,260
h. Expected UAAL current year: (a) + (b) + (c) - (d) + (e)(iii) + (f) + (g)	64,552,738
i. Actual UAAL current year	65,338,036
j. Experience gain/(loss): (h) - (i)	(785,298)
k. Experience gain/(loss) as a % of actuarial accrued liability	-0.38%
2. Approximate Portion of Gain/(Loss) Due to Investments* (at Actuarial Value)	\$5,593,864
3. Approximate Portion of Gain/(Loss) Due to Contributions* Higher or Lower than Expected	(\$8,615,770)
4. Approximate Portion of Gain/(Loss) Due to Liabilities: (1)(j) - (2) - (3)	\$2,236,609
a. Age & service retirements	\$518,730
b. Disability retirements	-
c. Death-in-service	1,696
d. Withdrawal from employment	-
e. Pay increases	-
f. Death after retirement	1,836,358
g. Other	(120,175)
h. Other as a % of actuarial accrued liability	-0.06%

\* The interest accrual of 8.00% is used for the period January 1, 2013 through December 31, 2013. Effective January 1, 2014, the assumed interest rate is 7.75%.

**Statement of Plan Net Assets**

<b>Assets at Market Value</b>		
<b>Item</b>	<b>FYE 2013</b>	<b>FYE 2012</b>
1. Cash and Cash Equivalents (Operating Cash)	\$5,260,218	\$6,812,189
2. Receivables		
a. Buy backs	\$0	\$182,238
b. Securities sold	642,283	356,765
c. Accrued interest and dividends	466,258	361,509
d. Currency contract receivable	19,387,005	3,440,346
e. Other	-	-
f. Rebate and fee income receivable	-	-
g. Total receivables	<u>\$20,495,546</u>	<u>\$4,340,858</u>
3. Investments, at Fair Value	\$159,933,042	\$151,162,784
4. Liabilities		
a. Benefits and refunds payable	(\$3,704)	\$0
b. Accrued payroll taxes and deductions	-	-
c. Securities purchased	(1,963,231)	(2,465,727)
d. Administrative and consulting fees payable	(249,757)	(165,385)
e. Currency contract payable	(19,485,670)	(3,432,267)
f. Securities lending collateral	(16,413,618)	(12,517,492)
g. Total liabilities	<u>(\$38,115,980)</u>	<u>(\$18,580,871)</u>
5. Total Market Value of Assets Available for Benefits	\$147,572,826	\$143,734,960

### Reconciliation of Plan Net Assets

Assets at Market Value		
Item	FYE 2013	FYE 2012
A. Market Value of Assets at Beginning of Year	\$143,734,960	\$139,417,394
B. Contribution Income:		
1. Contributions		
a. Employee	-	-
b. Employer	-	-
c. Other	-	\$242,988
d. Total	-	\$242,988
2. Investment Income		
a. Interest, dividends, and other income	\$3,639,586	\$3,782,547
b. Net appreciation	15,471,173	15,147,482
c. Investment expenses	(872,216)	(624,115)
d. Net investment income	\$18,238,543	\$18,305,914
3. Securities Lending		
a. Gross income	\$100,149	\$115,390
b. Deductions	(15,016)	(17,302)
c. Net investment income	\$85,133	\$98,088
Benefits and Refunds		
a. Refunds	-	-
b. Regular monthly benefits	(\$14,355,873)	(\$14,227,330)
c. Total	(\$14,355,873)	(\$14,227,330)
4. Administrative and Miscellaneous Expenses	(\$129,937)	(\$102,094)
C. Market Value of Assets at End of Year	\$147,572,826	\$143,734,960

Progress of Fund Through December 31, 2013

Plan Year Ending December 31	Employer Contributions*	Employee Contributions	Administrative Expenses	Net Investment Income**	Benefit Payments	Transfers	Actuarial Value of Assets
Total	\$242,988	-	(\$656,919)	\$76,523,629	(\$158,578,810)	-	
2000	-	-	-	-	-	-	\$194,656,466
2001	-	-	(\$14,593)	\$20,640,626	(\$7,901,445)	-	207,381,054
2002	-	-	(21,417)	(4,596,047)	(9,834,829)	-	192,928,800
2003	-	-	(8,834)	17,679,772	(10,717,703)	-	199,882,000
2004	-	-	(11,415)	3,646,859	(11,420,772)	-	192,096,700
2005	-	-	(17,582)	8,097,392	(11,858,914)	-	188,317,600
2006	-	-	(32,161)	14,989,755	(12,151,691)	-	191,123,500
2007	-	-	(43,747)	21,976,808	(12,468,812)	-	200,587,700
2008	-	-	(59,024)	(25,042,154)	(12,858,106)	-	162,628,400
2009	-	-	(60,827)	560,236	(13,279,752)	-	178,577,966
2010	-	-	(64,054)	3,155,329	(13,631,269)	-	168,037,972
2011	-	-	(91,234)	(703,688)	(13,872,314)	-	153,370,736
2012	\$242,988	-	(102,094)	(102,851)	(14,227,330)	-	139,181,449
2013	-	-	(129,937)	16,221,592	(14,355,873)	-	140,917,231

\* Includes other funding sources

\*\* Net of investment expenses

### Development of Actuarial Value of Assets

Item	FYE 2013	FYE 2012
1. Actuarial value of assets, beginning of year (before corridor)	\$139,181,449	\$153,370,736
2. Market value, end of year	\$147,572,826	\$143,734,960
3. Market value, beginning of year	\$143,734,960	\$139,417,394
4. Non-investment/administrative net cash flow:		
a. Employee contributions	\$0	\$0
b. Employer contributions	0	0
c. Other contributions	0	242,988
d. Refund of employee accounts	0	0
e. Retirement benefits	(14,355,873)	(14,227,330)
f. Administrative expenses	(129,937)	(102,094)
g. Total net cash flow: [sum of (4a) through (4f)]	(\$14,485,810)	(\$14,086,436)
5. Investments and securities lending:		
a. Interest and dividends on investments	\$3,639,586	\$3,782,547
b. Gross income from securities lending	100,149	115,390
c. Fees and expenses	(887,232)	(641,417)
d. Total net income: [sum of (5a) through (5c)]	\$2,852,503	\$3,256,520
6. Investment income:		
a. Actual market return: (2) - (3) - (4g) - (5d)	\$15,471,173	\$15,147,482
b. Assumed rate of return**	8.00%	8.00%
c. Assumed amount of return	8,078,008	7,344,254
d. Amount subject to phase-in: (6a) - (6c)	\$7,393,165	\$7,803,228
7. Phase-in recognition of investment income:		
a. Current year: 0.20 * (6d)	\$1,478,633	\$1,560,646
b. First prior year	1,560,646	(2,654,297)
c. Second prior year	(2,654,297)	1,367,708
d. Third prior year	1,367,708	3,538,391
e. Fourth prior year	3,538,391	(14,516,073)
f. Total recognition	\$5,291,081	(\$10,703,625)
<b>8. Actuarial value of assets, end of year</b>		
a. Preliminary actuarial value of assets, end of year: (1) + (4g) + (5d) + (6c) + (7f)	\$140,917,231	\$139,181,449
b. Upper corridor limit: 120% * (2)	177,087,391	172,481,952
c. Lower corridor limit: 80% * (2)	118,058,261	114,987,968
d. Actuarial value of assets, end of year	\$140,917,231	\$139,181,449
9. Difference between market and actuarial value of assets	\$6,655,595	\$4,553,511
<b>10. Actuarial rate of return</b>	12.29%	-0.07%
<b>11. Market rate of return*</b>	13.53%	14.05%
<b>12. Ratio of actuarial value to market value of assets</b>	95.49%	96.83%

\* Current year market rate of return is based on unaudited data and is supplied by NEPC, LLC.

\*\* The interest accrual of 8.00% is used for the period January 1, 2013 through December 31, 2013. Effective January 1, 2014, the assumed interest rate is 7.75%.



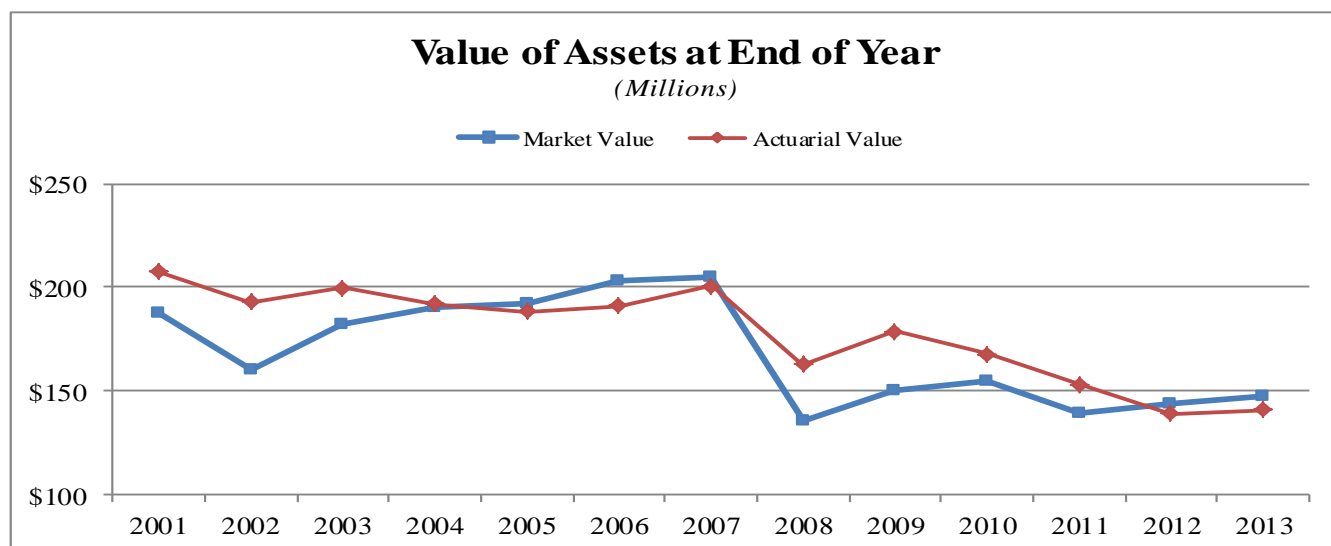
### History of Investment Returns

Plan Year (1)	Market Value (2)	Actuarial Value (3)
2000	-0.99%	16.60%
2001	-4.47%	10.82%
2002	-9.29%	-2.27%
2003	21.00%	9.43%
2004	11.54%	1.88%
2005	8.22%	4.35%
2006	12.63%	8.23%
2007	7.44%	11.89%
2008	-29.63%	-12.90%
2009	23.72%	18.78%
2010	13.80%	1.84%
2011	-0.90%	-0.44%
2012	14.05%	-0.07%
2013	13.53%	12.29%

**Average returns:**

Last five years:	12.56%	6.21%
Last ten years:	6.39%	4.24%

The market rates above were provided by NEPC, LLC, including changes to the rates for 2010 and 2012 since the prior valuation. The actuarial rates above are based on the financial information provided by McGee, Hearne & Paiz, LLP.



**Solvency Test**

<b>Valuation Date January 1</b>	<b>Total Active Member Contributions (1)</b>	<b>Inactive and Pensioners Liability (2)</b>	<b>Employer Financed Active Accrued Liability (3)</b>	<b>Actuarial Value of Assets</b>	<b>Percentage of Liabilities Covered by Assets</b>		
					<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
2004	\$1,095,000	\$162,675,000	\$17,820,000	\$199,882,000	100%	100%	204.3%
2005	1,471,000	167,299,000	16,877,000	192,097,000	100%	100%	138.2%
2006	1,271,000	171,300,000	17,881,000	188,318,000	100%	100%	105.8%
2007	1,076,000	174,599,000	12,278,000	191,123,000	100%	100%	125.8%
2008	938,000	176,480,000	10,950,000	200,587,700	100%	100%	211.6%
2009	513,619	179,393,300	12,599,000	162,628,400	100%	90.4%	0%
2010	408,160	184,570,961	10,885,759	178,577,966	100%	96.5%	0%
2011	259,464	189,063,504	6,882,584	168,037,972	100%	88.7%	0%
2012	226,353	189,373,457	6,085,396	153,370,736	100%	80.9%	0%
2013	226,353	188,732,687	6,240,155	139,181,449	100%	73.6%	0%
2014	96,203	203,198,729	2,960,335	140,917,231	100%	69.3%	0%

Schedule of Funding Progress

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Valuation Date January 1	Actuarial Value of Assets	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) [(3) - (2)]	Funded Ratio [(2)/(3)]	Covered Payroll	UAAL as a Percentage of Covered Payroll [(4)/(6)]
2003	\$192,928,800	\$212,222,700	\$19,293,900	90.91%	\$1,928,206	1,000.61%
2004	199,882,000	181,290,000	(18,592,000)	110.26%	1,520,768	(1,222.54%)
2005	192,096,700	185,647,000	(6,449,700)	103.47%	1,471,750	(438.23%)
2006	188,317,600	187,452,000	(865,600)	100.46%	1,271,170	(68.09%)
2007	191,123,500	187,953,100	(3,170,400)	101.69%	1,076,419	(294.53%)
2008	200,587,700	188,367,800	(12,219,900)	106.49%	937,915	(1,302.88%)
2009	162,628,400	192,506,400	29,878,000	84.48%	762,233	3,917.80%
2010	178,577,966	195,864,880	17,286,914	91.17%	860,343	2,009.30%
2011	168,037,972	196,205,552	28,167,580	85.64%	551,862	5,104.09%
2012	153,370,736	195,685,206	42,314,470	78.38%	481,271	8,792.22%
2013	139,181,449	195,199,195	56,017,746	71.30%	486,270	11,519.88%
2014	140,917,231	206,255,267	65,338,036	68.32%	198,404	32,931.75%

**Schedule of Contributions from the Employer(s) and Other Contributing Entities**

(1)	(2)	(3)	(4)	(5)	(6)
Fiscal Year Ending December 31	GASB No. 25 Annual Required Contribution (ARC)		Employer Contributions*		Percentage of GASB ARC Contributed
	% of Payroll	Amount	% of Payroll	Amount	[(5)/(3)]
2004	145.71%	\$2,215,900	0.00%	\$0	0.00%
2005	33.58%	494,200	0.00%	0	0.00%
2006	19.21%	244,200	0.00%	0	0.00%
2007	24.31%	261,700	0.00%	0	0.00%
2008	28.62%	268,400	0.00%	0	0.00%
2009	604.70%	4,609,216	0.00%	0	0.00%
2010	324.95%	2,795,684	0.00%	0	0.00%
2011	774.69%	4,275,217	0.00%	0	0.00%
2012	1308.39%	6,296,901	50.49%	242,988	3.86%
2013	1703.66%	8,284,395	0.00%	0	0.00%
2014	4767.08%	9,458,093			

\* Employer contributions were suspended in 1997. The employer contribution for 2013 reflects recoupment from a plan audit.

Reconciliation of Participant Data

	Active Participants	Vested Former Participants	Retired Participants	Disableds	Beneficiaries	Participants Due Refunds	Total
<b>Number as of January 1, 2013</b>	<b>7</b>	<b>-</b>	<b>227</b>	<b>19</b>	<b>49</b>	<b>1</b>	<b>303</b>
New participants	-	-	-	-	-	-	-
Vested terminations	-	-	-	-	-	-	-
Retirements	(4)	-	4	-	-	-	-
Disability	-	-	-	-	-	-	-
Deceased with beneficiary	-	-	(4)	(2)	6	-	-
Deceased without beneficiary	-	-	(3)	(1)	(3)	-	(7)
Due refunds	-	-	-	-	-	-	-
Lump sum payoffs	-	-	-	-	-	-	-
Rehires/return to active	-	-	-	-	-	-	-
Certain period expired	-	-	-	-	-	-	-
Reclassifications	-	-	-	-	-	-	-
Data corrections	-	-	-	-	-	-	-
<b>Number as of January 1, 2014</b>	<b>3</b>	<b>-</b>	<b>224</b>	<b>16</b>	<b>52</b>	<b>1</b>	<b>296</b>

### Demographic Statistics

	<b>January 1</b>		
	<b>2014</b>	<b>2013</b>	<b>Change</b>
<u><b>Active Participants</b></u>			
Number	3	7	-57.1%
<i>Vested</i>	3	7	
<i>Not Vested</i>	0	0	
Average age (years)	56.15	56.96	-1.4%
Average service (years)	34.96	33.57	4.1%
Average entry age (years)	21.19	23.39	-9.4%
Total payroll*	\$198,404	\$486,270	-59.2%
Average payroll*	\$66,135	\$69,467	-4.8%
Total employee contributions	\$96,203	\$226,353	-57.5%
Average employee contributions	\$32,068	\$32,336	-0.8%
<u><b>Vested Former Participants</b></u>			
Number	0	0	
Average age (years)	0.00	0.00	
Total employee contributions	\$0	\$0	
Average employee contributions	\$0	\$0	
<u><b>Service Retirees</b></u>			
Number	224	227	-1.3%
Average age (years)	67.02	66.56	0.7%
Total annual benefits	\$11,321,253	\$11,109,369	1.9%
Average annual benefit	\$50,541	\$48,940	3.3%
<u><b>Disability Retirees</b></u>			
Number	16	19	-15.8%
Average age (years)	68.91	69.53	-0.9%
Total annual benefits	\$771,993	\$882,639	-12.5%
Average annual benefit	\$48,250	\$46,455	3.9%
<u><b>Beneficiaries</b></u>			
Number	52	49	6.1%
Average age (years)	71.55	70.96	0.8%
Total annual benefits	\$2,383,906	\$2,184,296	9.1%
Average annual benefit	\$45,844	\$44,577	2.8%
Participants Due Refunds	1	1	0.0%

\* Projected top-paid firefighter first class salaries for the upcoming valuation year

### Distribution of Male Active Members by Age and by Years of Service

Average Age = 56.2      Average Service = 35.0

Age Last Birthday		Whole Years of Service at Valuation Date							Totals
		0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	
Less than 20	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
20-24	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
25-29	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
30-34	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
35-39	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
40-44	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
45-49	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
50-54	Count	-	-	-	-	-	-	1	1
	Avg. Salary	-	-	-	-	-	-	*	*
55-59	Count	-	-	-	-	-	-	2	2
	Avg. Salary	-	-	-	-	-	-	*	*
60-64	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
65-69	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
70 & Over	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
Totals	Count	-	-	-	-	-	-	3	3
	Avg. Salary	-	-	-	-	-	-	*	*

Average Salary represents annualized top-paid firefighter first class salary for 2013 and is not shown for cells with counts less than or equal to three participants

**Distribution of Female Active Members by Age and by Years of Service**

Average Age = 0.0      Average Service = 0.0

Age Last Birthday		Whole Years of Service at Valuation Date							Totals
		0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	
Less than 20	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
20-24	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
25-29	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
30-34	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
35-39	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
40-44	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
45-49	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
50-54	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
55-59	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
60-64	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
65-69	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
70 & Over	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
Totals	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-

Average Salary represents annualized top-paid firefighter first class salary for 2013 and is not shown for cells with counts less than or equal to three participants



### Distribution of Total Active Members by Age and by Years of Service

Average Age = 56.2      Average Service = 35.0

Age Last Birthday		Whole Years of Service at Valuation Date							Totals
		0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	
<b>Less than 20</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>20-24</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>25-29</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>30-34</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>35-39</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>40-44</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>45-49</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>50-54</b>	Count	-	-	-	-	-	-	1	1
	Avg. Salary	-	-	-	-	-	-	*	*
<b>55-59</b>	Count	-	-	-	-	-	-	2	2
	Avg. Salary	-	-	-	-	-	-	*	*
<b>60-64</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>65-69</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>70 &amp; Over</b>	Count	-	-	-	-	-	-	-	-
	Avg. Salary	-	-	-	-	-	-	-	-
<b>Totals</b>	Count	-	-	-	-	-	-	3	3
	Avg. Salary	-	-	-	-	-	-	*	*

Average Salary represents annualized top-paid firefighter first class salary for 2013 and is not shown for cells with counts less than or equal to three participants

**Schedule of Pension Recipients Added to and Removed from Rolls**

<b>Fiscal Year Ending December 31</b>	<b>Added to Rolls*</b>		<b>Removed from Rolls</b>		<b>Total</b>		<b>Percent Increase in Annual Pension Benefits</b>	<b>Average Annual Pension Benefit</b>
	<b>Count</b>	<b>Annual Pension Benefits</b>	<b>Count</b>	<b>Annual Pension Benefits</b>	<b>Count</b>	<b>Annual Pension Benefits</b>		
2008	7	N/A	6	N/A	308	\$13,081,594	3.39%	\$42,473
2009	7	\$717,462	8	\$326,086	307	13,472,970	2.99%	43,886
2010	6	740,209	9	399,019	304	13,814,160	2.53%	45,441
2011	7	767,782	12	579,402	299	14,002,540	1.36%	46,831
2012	3	481,949	7	308,184	295	14,176,304	1.24%	46,831
2013	10	935,977	13	635,129	292	14,477,152	2.12%	49,579

\* Includes cost-of-living increases

**Pensioners by Amount and Status**

<b>Males</b>			
<b>Benefit Amount</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under \$200</b>	-	-	-
<b>\$200-\$399</b>	-	-	-
<b>\$400-\$599</b>	-	-	-
<b>\$600-\$799</b>	-	-	-
<b>\$800-\$999</b>	-	-	-
<b>\$1,000-\$1,499</b>	-	-	-
<b>\$1,500-\$1,999</b>	-	5	5
<b>\$2,000-\$2,499</b>	-	7	7
<b>\$2,500 &amp; over</b>	-	226	226
<b>Total</b>	-	<b>238</b>	<b>238</b>
<b>Females</b>			
<b>Benefit Amount</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under \$200</b>	-	-	-
<b>\$200-\$399</b>	1	-	1
<b>\$400-\$599</b>	-	-	-
<b>\$600-\$799</b>	-	1	1
<b>\$800-\$999</b>	1	-	1
<b>\$1,000-\$1,499</b>	2	-	2
<b>\$1,500-\$1,999</b>	-	1	1
<b>\$2,000-\$2,499</b>	3	-	3
<b>\$2,500 &amp; over</b>	45	-	45
<b>Total</b>	<b>52</b>	<b>2</b>	<b>54</b>
<b>Males &amp; Females</b>			
<b>Benefit Amount</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under \$200</b>	-	-	-
<b>\$200-\$399</b>	1	-	1
<b>\$400-\$599</b>	-	-	-
<b>\$600-\$799</b>	-	1	1
<b>\$800-\$999</b>	1	-	1
<b>\$1,000-\$1,499</b>	2	-	2
<b>\$1,500-\$1,999</b>	-	6	6
<b>\$2,000-\$2,499</b>	3	7	10
<b>\$2,500 &amp; over</b>	45	226	271
<b>Total</b>	<b>52</b>	<b>240</b>	<b>292</b>

### Pensioners by Age and Status

Average Age Male = 67.3

Average Age Female = 70.8

Average Age Total = 67.9

<b>Males</b>			
<b>Age Last Birthday</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under 50</b>	-	-	-
<b>50-54</b>	-	4	4
<b>55-59</b>	-	62	62
<b>60-64</b>	-	44	44
<b>65-69</b>	-	47	47
<b>70-74</b>	-	30	30
<b>75-79</b>	-	20	20
<b>80-84</b>	-	21	21
<b>85 &amp; over</b>	-	10	10
<b>Total</b>	-	<b>238</b>	<b>238</b>
<b>Females</b>			
<b>Age Last Birthday</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under 50</b>	-	1	1
<b>50-54</b>	7	-	7
<b>55-59</b>	3	1	4
<b>60-64</b>	6	-	6
<b>65-69</b>	4	-	4
<b>70-74</b>	9	-	9
<b>75-79</b>	11	-	11
<b>80-84</b>	7	-	7
<b>85 &amp; over</b>	5	-	5
<b>Total</b>	<b>52</b>	<b>2</b>	<b>54</b>
<b>Males &amp; Females</b>			
<b>Age Last Birthday</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under 50</b>	-	1	1
<b>50-54</b>	7	4	11
<b>55-59</b>	3	63	66
<b>60-64</b>	6	44	50
<b>65-69</b>	4	47	51
<b>70-74</b>	9	30	39
<b>75-79</b>	11	20	31
<b>80-84</b>	7	21	28
<b>85 &amp; over</b>	5	10	15
<b>Total</b>	<b>52</b>	<b>240</b>	<b>292</b>

**Pensions Awarded in 2013 by Status**

Average Age = 67.1

<b>Males &amp; Females</b>			
<b>Benefit Amount</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under \$200</b>	-	-	0
<b>\$200-\$399</b>	-	-	0
<b>\$400-\$599</b>	-	-	0
<b>\$600-\$799</b>	-	-	0
<b>\$800-\$999</b>	-	-	0
<b>\$1,000-\$1,499</b>	-	-	0
<b>\$1,500-\$1,999</b>	-	-	0
<b>\$2,000-\$2,499</b>	-	-	0
<b>\$2,500 &amp; over</b>	6	4	10
<b>Total</b>	<b>6</b>	<b>4</b>	<b>10</b>
<b>Males &amp; Females</b>			
<b>Benefit Amount</b>	<b>Beneficiaries</b>	<b>Retirees and Disabled Members</b>	<b>Total</b>
<b>Under 50</b>	-	-	-
<b>50-54</b>	-	-	-
<b>55-59</b>	-	3	3
<b>60-64</b>	2	-	2
<b>65-69</b>	1	1	2
<b>70-74</b>	2	-	2
<b>75-79</b>	-	-	-
<b>80-84</b>	-	-	-
<b>85 &amp; over</b>	1	-	1
<b>Total</b>	<b>6</b>	<b>4</b>	<b>10</b>

**Retirees and Disabled Members by Service at Retirement and Years Since Retirement**  
(Average Benefit)

Average Service at Retirement = 21.3      Average Years Since Retirement = 18.5

Service at Retirement		Years Elapsed Since Retirement							Totals
		0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	
<b>Less than 5</b>	Count	4	1	8	-	-	-	-	13
	Avg. Benefit	4,980	\$3,720	3,970	-	-	-	-	\$4,261
<b>5-9</b>	Count	-	-	-	1	-	-	-	1
	Avg. Benefit	-	-	-	\$1,730	-	-	-	1,730
<b>10-14</b>	Count	-	2	8	3	1	4	-	18
	Avg. Benefit	-	2,019	\$2,209	2,532	\$1,771	\$2,326	-	2,244
<b>15-19</b>	Count	-	-	3	5	-	-	3	11
	Avg. Benefit	-	-	3,088	3,999	-	-	\$3,691	3,667
<b>20-24</b>	Count	-	1	38	26	20	20	21	126
	Avg. Benefit	-	4,282	4,227	4,043	3,950	4,054	4,017	4,083
<b>25-29</b>	Count	2	14	15	8	7	3	1	50
	Avg. Benefit	\$4,676	4,866	4,973	5,025	5,207	4,369	3,883	4,914
<b>30-34</b>	Count	5	-	6	3	1	2	1	18
	Avg. Benefit	6,056	-	5,252	4,765	4,310	4,363	\$4,252	5,188
<b>35 &amp; Over</b>	Count	1	-	1	1	-	-	-	3
	Avg. Benefit	7,059	-	4,720	\$4,615	-	-	-	5,465
<b>Totals</b>	Count	<b>12</b>	<b>18</b>	<b>79</b>	<b>47</b>	<b>29</b>	<b>29</b>	<b>26</b>	<b>240</b>
	Avg. Benefit	<b>\$5,551</b>	<b>\$4,453</b>	<b>\$4,179</b>	<b>\$4,118</b>	<b>\$4,190</b>	<b>\$3,869</b>	<b>\$3,984</b>	<b>\$4,199</b>

**Pensioners by Year of Retirement**

January 1, 2014 Total = 240

<b>Year of Retirement</b>	<b>Count</b>	<b>Year of Retirement</b>	<b>Count</b>
<b>Under 1960</b>	-	<b>1988</b>	5
<b>1960</b>	-	<b>1989</b>	8
<b>1961</b>	-	<b>1990</b>	7
<b>1962</b>	-	<b>1991</b>	4
<b>1963</b>	-	<b>1992</b>	8
<b>1964</b>	-	<b>1993</b>	2
<b>1965</b>	-	<b>1994</b>	6
<b>1966</b>	-	<b>1995</b>	10
<b>1967</b>	-	<b>1996</b>	6
<b>1968</b>	1	<b>1997</b>	10
<b>1969</b>	1	<b>1998</b>	15
<b>1970</b>	1	<b>1999</b>	20
<b>1971</b>	3	<b>2000</b>	17
<b>1972</b>	2	<b>2001</b>	18
<b>1973</b>	1	<b>2002</b>	13
<b>1974</b>	-	<b>2003</b>	11
<b>1975</b>	4	<b>2004</b>	3
<b>1976</b>	-	<b>2005</b>	6
<b>1977</b>	5	<b>2006</b>	4
<b>1978</b>	2	<b>2007</b>	4
<b>1979</b>	2	<b>2008</b>	1
<b>1980</b>	1	<b>2009</b>	3
<b>1981</b>	-	<b>2010</b>	4
<b>1982</b>	1	<b>2011</b>	1
<b>1983</b>	2	<b>2012</b>	-
<b>1984</b>	5	<b>2013</b>	4
<b>1985</b>	7		
<b>1986</b>	2		
<b>1987</b>	10		

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## **APPENDIX A**

### **SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS**

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## Summary of Actuarial Assumptions and Methods

The following methods and assumptions were used in preparing the January 1, 2014 actuarial valuation report.

### 1. Valuation Date

The valuation date for any given year is January 1<sup>st</sup>, the first day of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

### 2. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal (EAN) actuarial cost method, amortized as a level dollar amount. Under this method, the employer contribution amount is the sum of (i) the employer normal cost amount, and (ii) the amount that will amortize the unfunded actuarial accrued liability (UAAL).

- a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 7.75%), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. The present value of the expected benefits payable for the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Fund on account of the present group of participants and beneficiaries.
- b. The employer contributions required to support the benefits of the Fund are determined using a level funding approach, and consist of a normal cost contribution and an accrued liability contribution.
- c. The normal cost contribution is determined using the "entry age normal" actuarial cost method. Under this method, a calculation is made to determine the average uniform and constant percentage amount of employer contribution which, if applied to each new participant during the entire period of his/her anticipated covered service, would be required to meet the cost of all benefits payable on his/her behalf based on the benefits provisions applicable for the individual member.

- d. The unfunded actuarial accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 10 years from the valuation date.
- 3. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income, with interest, dividends, and other income recognized immediately. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. An adjustment is made if the actuarial value is not within 20% of the Market Value. For any year following a year in which the 20% of market value adjustment was applied, the actuarial value is determined as if the adjustment was not applied in the previous year.
- 4. Economic Assumptions
  - a. Investment return:

7.75% per year, compounded annually, composed of an assumed 3.25% inflation rate and a 4.50% net real rate of return. This rate represents the assumed return, net of investment expenses.
  - b. Salary increase rate:

0% per year
  - c. Payroll growth rate:

In the amortization of the unfunded actuarial accrued liability, payroll is not assumed to increase. The assumed payroll growth in a closed plan is 0%.

5. Demographic Assumptions

a. Rates Before Retirement

Healthy Pre-Retirement Mortality:

RP-2000 Combined Mortality Table, fully generational, projected with Scale BB

Males: Set back 4 years with a multiplier of 104%

Females: Set back 3 years with a multiplier of 90%

Healthy Post-Retirement Mortality:

RP-2000 Combined Mortality Table, fully generational, projected with Scale BB

Males: Set back 0 years with a multiplier of 104%

Females: Set forward 1 year with a multiplier of 90%

Disabled Mortality:

RP-2000 Disabled Mortality Table, fully generational, projected with Scale BB

Males: Set forward 5 years with a multiplier of 120%

Females: Set forward 5 years with a multiplier of 120%

Age	Pre-Retirement		Post-Retirement		Disabled	
	Projected to 2014 using Scale BB					
	Male	Female	Male	Female	Male	Female
20	0.03%	0.02%	0.03%	0.02%	2.60%	0.86%
25	0.04%	0.02%	0.04%	0.02%	2.60%	0.86%
30	0.04%	0.02%	0.04%	0.03%	2.60%	0.86%
35	0.05%	0.03%	0.08%	0.04%	2.60%	0.86%
40	0.08%	0.05%	0.11%	0.07%	2.60%	0.86%
45	0.11%	0.07%	0.15%	0.11%	3.33%	1.33%
50	0.16%	0.11%	0.21%	0.16%	4.08%	1.85%
55	0.24%	0.17%	0.36%	0.26%	4.57%	2.28%
60	0.42%	0.28%	0.64%	0.45%	5.08%	2.84%
65	0.71%	0.51%	1.12%	0.83%	6.08%	3.81%
70	1.25%	0.92%	1.87%	1.41%	7.97%	5.29%
75			3.18%	2.35%	10.62%	7.33%
80			5.42%	3.86%	13.75%	10.15%
85			9.32%	6.56%	18.85%	14.39%
90			16.34%	11.31%	29.51%	21.46%
95			25.57%	17.23%	39.64%	27.32%
100			34.36%	21.43%	47.75%	35.17%

b. Disability and withdrawal

Age	Disability		Withdrawal	
			Ultimate	
	Male	Female	Male	Female
20	0.03%	0.03%	12.00%	12.00%
25	0.03%	0.03%	8.00%	8.00%
30	0.03%	0.03%	5.00%	5.00%
35	0.19%	0.19%	3.00%	3.00%
40	0.42%	0.42%	1.00%	1.00%
45	0.65%	0.65%	1.00%	1.00%
50	0.82%	0.82%	1.00%	1.00%
55	1.81%	1.81%	0.50%	0.50%
60	2.00%	2.00%	0.50%	0.50%

c. Retirement Rates

Age	Rate
50	20%
51	25%
52	25%
53	25%
54	25%
55	25%
56	25%
57	25%
58	25%
59	25%
60	100%
61	100%
62	100%

6. Other Assumptions

- Percent married: 100.00% of employees are assumed to be married. (No beneficiaries other than the spouse assumed.)
- Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.

- d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- e. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available, which for this plan is 20 years after hire date.
- f. No benefit data is available for members entitled to deferred benefits. The present value of benefits expected to be paid to vested inactive non-retired members is approximated using the data provided.
- g. There will be no recoveries once disabled.
- h. Administrative expenses: Assumed to be the average of the prior two years, with each year projected at 6.5% to the valuation date.
- i. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pay represents amount paid to members during the year ended on the valuation date.
- j. Decrement timing: Decrements of all types are assumed to occur mid-year.
- k. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- l. Benefit Service: All members are assumed to accrue one year of service each year.

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## **APPENDIX B**

### SUMMARY OF PLAN PROVISIONS

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### Summary of Plan Provisions

<b>Covered Members</b>	Any person who is a member of Wyoming Paid Firemen's Retirement Fund Plan A. This plan only covers members hired prior to July 1, 1981.
<b>Fireman First Class</b>	The highest salary grade which a fireman can obtain within his department without any promotion in rank. The term specifically excludes chiefs, officers, engineers, fire equipment operators, secretaries, mechanics, inspectors and all other specialized grades, ratings and ranks.
<b>Form of Payment</b>	Monthly benefit for life. Upon death, 100% of the benefit continues to be paid to the beneficiary.
<b>Service Retirement</b>	
Eligibility	20 or more years of service.
Monthly Benefit	75.0% of the maximum salary for a fireman first class for 20 years of service plus 1.5% of the maximum salary for a fireman first class for each year of service in excess of 20 years.
Vesting	Any employee who has left the service with at least 10 years of service can elect to receive a lump-sum refund of 99.5% of contributions. An employee who terminates with less than ten years of service is only eligible for the lump-sum benefit.
<b>Disability Retirement</b>	
Eligibility	No age or service eligibility requirements. Partial or total disability resulting from an individual and specific act, the type of which would normally occur only while employed as an employee, or as otherwise defined under W.S. 15-5-204.
Monthly Benefit	75.0% of the maximum salary for a fireman first class for 20 years of service plus 1.5% of the maximum salary for a fireman first class for each year of service in excess of 20 years.

**Pre-retirement Death Benefit**

Eligibility	No age or service requirements.
Monthly Benefit	75.0% of the maximum salary for a fireman first class for 20 years of service plus 1.5% of the maximum salary for a fireman first class for each year of service in excess of 20 years.

**Contributions**

Employee	None
Employer	None
Interest	None

<b>Cost-of-Living Improvements</b>	3.0% per year, applied annually following the one-year anniversary of retirement. In the event the most current actuarial valuation indicates the market value of assets is greater than 115% of the actuarial value of liabilities, the Board may elect to grant up to a 5.0% increase if the System's actuary determines such an increase to be actuarially sound.
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